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S13	0	(S3(2W)S1) AND (S2(5N)S6)

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Analyzing your business: ratios/trend analysis and credit management.
(Wyeth-Ayerst Laboratories' Continuing Education series for pharmacists)
Drug Topics, v137, n13, p62(9)
July 05, 1993
ISSN: 0012-6616 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT; ABSTRACT
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ABSTRACT: A financial analysis primer for pharmacy owners and managers is provided. Two different methods for analyzing income and expense statements and balance sheets are introduced. These two methods are ratio analysis and trend analysis. The ratios analyzed are liquidity and solvency, inventory control, profitability and capital efficiency. A case study and test questions are included.

TEXT:

Sound financial decisions can be made only through the proper use of reliable financial data. The two basic reports available are:

- * The income and expense statement--the sales and expense report over a specified period of time, usually one year
- * The balance sheet--a financial picture of the business at a given point in time

The ability to analyze business operations by interpreting these accounting records is one of the keys to the successful management of a pharmacy.

The calculations are not difficult to perform, and they require only a little time and effort.

We will examine two different ways of analyzing these financial statements:

1. Ratio Analysis: Computing a series of ratios from selected numbers on the two financial statements.

2. Trend Analysis: Comparing the two statements to an internal standard--the statements from previous years.

After we have done the ratio analysis and the trend analysis, we will review the managerial aspects of one of the most critical areas of financial management for most community pharmacies: credit management.

FINANCIAL RATIO ANALYSIS

Financial ratio analysis, the utilizing of elected items from the balance sheet and the profit and loss statement, is one technique employed by managers to assess overall performance and to reveal emerging problems.

Financial ratio analysis is not difficult to do. It is a way of expressing various statistics from the financial statements and their relationship with each other.

How many ratios are there? There can be lots of them. Most texts list 20 or more. Each provides valuable information. However, in pharmacy management there are only a few that should be calculated on a regular basis.

The pharmacy manager must determine whether the ratios are good, bad, or average. Three basic approaches for comparison include the use of:

- * rule-of-thumb standards
- * ratios from a selected group of pharmacies
- * ratios from previous years

Rule-of-thumb methods should be applied with care, since they relate to business in general. For example, a rule of thumb for the current ratio is most frequently stated as "2 to 1." Many firms have gone bankrupt with a current ratio of 2:1. Whether or not a firm's current ratio is good depends upon such factors as the nature of the company's business, the distribution of its current assets, and the turnover rate of certain of its assets.

Ratios derived from data from a selected group of pharmacies,

utilizing the Lilly Digest, offer a better basis for comparison; however, this section is not as detailed today as it was several years ago.

Ratios derived from the internal data of previous years offer the best basis for comparison and will be extensively reviewed under trend analysis.

We will compute several of the most common ratios and discuss each briefly. Since the essence of management is in doing and not in knowing--to manage is an active verb--you can later compute and analyze the ratios from your financial statements.

An examination of a combination of ratios by area of financial management may prove more enlightening than looking at any one ratio alone. For example, review all of the ratios involving net profit as a group. We will group the ratios into the following categories:

- * Liquidity and solvency
 - * Inventory control
 - * Profitability
 - * Capital efficiency
- LIQUIDITY AND SOLVENCY

Liquidity refers to the pharmacy's ability to convert its current assets into cash and to pay its current bills. Solvency refers to the pharmacy's ability to pay the interest and to meet repayment schedules associated with long-term debts. The numbers to compute these liquidity and solvency ratios are taken from the balance sheet.

1. Current ratio:

$\text{Current Assets} / \text{Current Liabilities}$

Current assets include cash, accounts receivables, and inventory. Current liabilities include accounts payable and notes payable within one year.

What does this ratio mean? This ratio, sometimes called the net working capital ratio, is intended to give some indication of the pharmacy's ability to pay its bills as they come due. Can the pharmacy pay its bills in the short term with cash or with what it can turn into cash?

Generally speaking, if the current ratio is too small, the pharmacy will encounter problems in paying bills as they become due. On the other end, too high a ratio may indicate a possible failure to be using available funds in the most productive ways. Is too much money available? Is there excessive inventory or excessive accounts receivable consisting of many slow-paying accounts? The ratio should be significantly greater than 1:1, because the inventory must be sold before it is turned into cash.

Perhaps the best test to determine the adequacy of the current ratio is a comparison with the average for a number of close competitors from the Lilly Digest. For independent community pharmacy, the average ratio for all pharmacies is approximately 3:1, with the more established pharmacies generally enjoying higher ratios.

2. Acid-test ratio:

$\text{Current Assets (minus) Inventory} / \text{Current Liabilities}$ check on current asset distribution. In fact, it is often referred to as the quick ratio, because it is the ratio of the two current assets most readily available to pay bills: accounts receivable and cash. If the pharmacy has a large quantity of slow-moving inventory as a result of overbuying, the situation will not be exposed by the current ratio but will certainly be evident in the acid-test calculation. An acid-test ratio of 1:1 is considered satisfactory; it should not fall below 1.0 for any length of time.

3. Current liabilities/Net Worth

4. Total Liabilities/Net Worth

These two ratios contain information about the owner's equity in the business, i.e., that portion of the business that is free from financial obligation. The current ratio and the acid-test ratio merely show the amount of cash or what is convertible into cash when measured against current liabilities. They do not take into account the owned portion of the business. [TABULAR DATA OMITTED]

Current liabilities to net worth is a measure of short-term solvency: How well will the pharmacy be able to meet payments? This ratio is taken

into account when short-term business loans are being considered by lenders.

Long-term liabilities to net worth also measures the capacity to meet loan payments--but in the extended period of a long-term debt. This ratio, frequently referred to as the debt-to-equity ratio, is extremely important to creditors, because it compares the dollars that creditors have contributed in financing the pharmacy to the dollars the owners have contributed. It gives some indication of the risk involved in lending money to the pharmacy. An axiom states that the creditors should not have more invested in the business than the owners do.

If either of these ratios is high, even to the extent of indicating that debts exceed net worth, then the pharmacy's borrowing power would be greatly diminished if not completely eliminated. The averages for these two ratios for community pharmacies is approximately 40% and 75%, respectively.

5. Funded Debt (long-term liabilities)/Net Working Capital

The net working capital is the current assets minus the current liabilities. This ratio, along with the previous ones, is helpful in determining a pharmacy's potential to borrow. A high funded debt places a severe strain on the net working capital, because from this fund comes the money to amortize the funded debt. The average for pharmacies is approximately 30% and should not exceed 50%.

6. Fixed Assets to Net Worth

This ratio indicates the degree to which the pharmacy has invested its capital in fixed assets, i.e., assets held for the sale of goods and services and including such items as land, buildings, equipment, and fixtures. If this figure exceeds 50%, too much money is invested in fixed assets and is therefore not available for working capital. It is difficult to correct this problem once it occurs, because fixed assets are difficult to liquidate without absorbing a significant loss from the original purchase price. On the other hand, a low percentage suggests that remodeling may soon be necessary.

7. Ending Accounts Receivable/Annual Credit Sales % 365

One of the most important indicators of current conditions in a pharmacy that provides credit is the speed with which the pharmacy collects its accounts payable. The average collection period (days' sales uncollected) gives an idea of the liquidity of the receivables. According to a rule of thumb, a pharmacy's accounts receivable should not exceed 1 1/3 times the days in the credit period it grants. If the pharmacy offers 30-day terms, then 40 days or less is acceptable. If the days' sales uncollected are excessive, it is assumed that some accounts are old and uncollectible.

An important relationship exists between the average collection period and the pharmacy's own credit terms. For example, credit terms of 30 days and an average collection period of 45 days could be dangerous and costly, for the continued congestion of funds in receivables reduces the flow of cash for reinvestment in inventory.

8. Ending Accounts Payable Outstanding/Annual Purchases %365

The average accounts payable collection period--the number of days you take to pay the average account payable--relates very closely to the ability to take the cash discount, an important source of funds.

These first eight ratios in the financial areas of liquidity and solvency were derived primarily from the balance sheet. The remaining ratios dealing with the management areas of inventory control, profitability, and capital efficiency will be derived either from the income and expense statement alone or from a combination of the two statements.

[TABULAR DATA OMITTED]

INVENTORY CONTROL

9. Inventory Turnover Rate:

Cost of Goods Sold/Average Inventory

Inventory turnover rate is an indication of the frequency with which merchandise is sold. For example, an inventory turnover rate of 4.8 tells me that I am selling the equivalent of my entire inventory almost five

times per year. The average inventory turnover rate for community pharmacies in the 1992 Lilly Digest was 5.8. The rate at which your merchandise gets into the hands of your customers greatly affects your cash flow. Obviously, you cannot ignore inventory, because selling inventory is the source of your income.

This ratio utilizes figures from both financial statements. An inventory turnover that appears to be low or is decreasing over time when compared to previous ratios may indicate overbuying or an accumulation of obsolete or slow-moving inventory. An inventory turnover that is high may indicate incomplete stocks with frequent loss of sales. If the inventory begins to turn very quickly, the pharmacy would probably benefit through the purchase of selective deals for quantity discounts.

Since inventory is the major investment of the pharmacy--almost \$125,000 in the 1992 Lilly Digest--it must be closely monitored.

10. Inventory/Net Working Capital

This ratio is an additional means of measuring liquidity as well as inventory balance. It is indicative of the efficient use of capital. Too little inventory results in out-of-stock situations; too much inventory decreases the return on investment. The ratio normally is between 75% and 125%.

11. Net Profit/Inventory

This ratio measures both profitability and the efficient use of inventory. The minimum acceptable value would be approximately 20%, with a range of 20% to 40%.

To illustrate: Let us suppose that you had an annual sales volume of \$300,000. The cost of goods sold was \$200,000. If your inventory turnover rate was 4.0, then your average inventory investment was \$50,000 (\$200,000 divided by 4). Let's also suppose your net profit was \$10,000. Your return on investment in inventory was \$10,000 divided by \$50,000, or 20%. If you were to increase your turnover rate from 4.0 to 5.0, a single turn, then you would free up \$10,000 in money (\$200,000 divided by 5 equals \$40,000), and your return on investment in inventory would increase from 20% to 25% (\$10,000 divided by \$40,000).

PROFITABILITY

12. Net Profit/Sales

This is the most frequently used and best understood ratio to indicate the profitability of the community pharmacy. In fact, many of you have probably not even realized as you computed the value that you were doing financial ratio analysis.

This is a convenient way to compare the performance of the pharmacy with that of other pharmacies of similar sales and prescription volume by utilizing data from the Lilly Digest. It is also useful in comparing data from the same pharmacy over time.

Since this ratio does not take into account the value of the assets necessary to generate income, it is most useful in connection with the next ratio: return on investment (return on equity).

13. Net Profit/Net Worth

This ratio is probably the most important single ratio, since it measures how well funds supplied by the owner are being utilized. Is the capital investment represented by net worth adequately paying off in net profit?

This ratio is the broadest measure of profitability of the pharmacy. It is indicative of overall profitability and operational efficiency. A rising trend in the return-on-investment ratio shows an increasingly effective use of the owner's funds as supplied to the business. Whether or not a particular return on investment (ROI) is acceptable depends upon the investor's own appraisal of risk, and changes in net worth will normally fluctuate. The average return on investment in the 1992 Lilly Digest was 24.1%.

14. Net Profit/Total Assets

For a new pharmacy with heavy funded debts and a relatively small net worth, this ratio may provide a more meaningful measure of profitability than the return-on-investment ratio. The rationale for using this ratio is

that it measures the efficient use of all the assets under the control of management. A minimal desirable value is 10%.

RATIO/TREND ANALYSIS: A CASE STUDY

Table 1 presents the income and expense data for a business we'll call Prichard's Pharmacy for three consecutive years (1990-1992). Table 2 presents the balance sheet data for the same three years. Table 3 presents the computered ratios for the same three years.

[TABULAR DATA OMITTED]

Prichard's has problems: An examination of the ratios in Table 3 shows that there are problems at Prichard's Pharmacy. You probably noted some of them simply by examining the income and expense statement and balance sheet in Tables 1 and 2.

The current ratio for 1992 is 2.46, and the acid-test ratio is 0.7, both considerably below the Lilly Digest averages for comparable pharmacies. The current liabilities-to-net worth ratio of 57.0% is higher than the average for community pharmacies. The average accounts collection period is 48.7 days.

These four ratios suggest that Prichard's Pharmacy may have difficulty paying its bills. As might be suspected from the low acid-test ratio and the high average accounts receivable collection period, Prichard's Pharmacy does not have the cash flow necessary to pay its bills on time. Its accounts payable collection period is 36.5 days, well above the industry average. When the accounts payable period becomes extended, it usually points to difficulties in paying bills to suppliers and should show up as it did here in the current ratio and acid-test ratio. This puts the pharmacy in the position of not being able to pay its current debts. Remember, the acid-test ratio disregards inventory.

An examination of the three-year trends for these four ratios in Prichard's Pharmacy potentiates the problem. Not only are the current ratio and the acid-test ratio poor, but they are decreasing. Furthermore, the current liabilities-to-net-worth accounts receivable collection period and the accounts payable collection period ratios are increasing. The accounts payable outstanding ratio has increased from 30.2 days to 36.5 days in one year. This is a further indicator as to why the gross margin is decreasing. The pharmacy loses the cash discounts, which leads to a higher cost of goods sold and in turn lowers the gross margin.

Prichard's Pharmacy is moving in the direction of a major liquidity problem because of its low cash position. Furthermore, the total liability-to-net worth ratio indicates that the solvency of the pharmacy is at best fair, and the trend is not good (rising from 52.0% to 72.0% over three years). A substantial effort is needed to change this trend to avoid a future crisis.

Long-term liabilities have remained relatively stable, as reflected by the funded debt-to-net working capital ratio of 18.0% and the fixed assets-to-net worth ratio of 21.5%, both well within the standard values of the industry.

Let us now look at the other ratios involving inventory control, profitability, and capital efficiency before we attempt to deal with the liquidity issue.

The inventory turnover rate of 4.0 is well below the industry average of 5.8. This strongly suggests too much merchandise is sitting on the shelves tying up needed cash, which showed up in the current and acid-test ratios.

The inventory-to-net working capital ratio of 118.0% is on the upper end of the acceptable range and is well above the industry average.

All of the ratios involving net profit, including the net profit-to-inventory ratio, are unacceptable, as the pharmacy lost money in 1992.

Examination of the trend analysis of Prichard's Pharmacy shows similar problems. While the inventory turnover rate has remained relatively stable, the inventory-to-net working capital ratio has increased from 92.0% in 1990 to 118.0% in 1992. There has been a dramatic decline in the net profit for Prichard's Pharmacy over the three-year period, to the point

where the pharmacy had a net loss of \$2,000 in 1992. This negative impact is revealed in all of the profitability ratios.

What has happened to Prichard's Pharmacy? While the net profit commands the focus of attention, it is not the problem. It is the consequence of a chain reaction of other less apparent factors. The ratio and trend analysis has indicated major problems in profitability, liquidity, and inventory control.

The current ratio, acid-test ratio, and current liabilities-to-net worth suggest Prichard's may have difficulty paying its bills on time. The probability that this is occurring is further indicated by the accounts receivable collection period and the accounts payable collection period ratios.

In reviewing the balance sheet (Table 2), it is evident the pharmacy is moving in the direction of a major liquidity problem because of its low cash position. The cash account has decreased dramatically, from \$20,000 in 1990 to \$5000 in 1992, while the accounts receivable account has increased significantly from \$25,000 in 1990 to \$40,000 in 1992, and the inventory account has increased from \$80,000 in 1990 to \$105,000 in 1992.

Prichard's is taking longer to pay its bills, because it does not have sufficient cash on hand. A considerable amount of inventory must be sold and/or the accounts receivable outstanding must be collected and turned into cash.

Current liabilities have grown significantly from 1990 to 1992. Accounts payable have increased from \$24,000 in 1990 to \$41,000 in 1992. Apparently, the pharmacy has borrowed some monies to operate, as the short-term notes are up from \$7,000 in 1990 to \$11,000 in 1992.

Customers not paying their bills and increased borrowing to pay creditors directly influence net profit. The income and expense statement (Table 1) indicates that bad debts have increased from \$1,000 in 1990 to \$5,000 in 1992, an increase of 400%.

Interest paid to cover the short-term borrowing has increased from \$2,000 in 1990 to \$5,000 in 1992, an increase of 150%. Furthermore, the cost of goods sold has increased from 64.4% of sales in 1990 to 66.7% in 1992. Because the pharmacy has had difficulty paying its bills on time, it frequently has been unable to take advantage of cash and quality discounts.

Reversing the downslide: We have now computed and analyzed the financial ratios on the data for Prichard's Pharmacy. This included a three-year trend analysis. We have examined the balance sheet and the income and expense statements to see their interrelationships. We have seen how practical the exercise is--with clear indicators to be acted upon--which leads to the final issue: What steps does the owner/manager need to take to correct for the declining net profit? Some possibilities include:

- * Review the accounts receivable system, and implement tighter controls. You need to reduce the accounts receivable without incurring a large amount of bad debt.
- * Reduce inventory levels by decreasing purchases and marking down or returning slow-moving merchandise. An increase in the inventory turnover rate by a single turn--from four to five--would provide an additional \$20,000 in the cash account.
- * Review the pharmacy's basic pricing structure. The selling price of merchandise should be reviewed to be certain that such prices cover the increases in the cost of purchases, i.e. refill prescriptions.
- * Review the proprietor's salary. It has increased by \$10,000 over the three-year period, from 5.0% to 5.8% of sales. Many of the other expense increases are probably uncontrollable.
- * The accounts payable collection period should be decreased to thirty days or less. Be certain that all cash discounts are taken, even if it requires borrowing money for the short term.

The remainder of the article will show how you can take one of these major areas of financial management--accounts receivable--and dramatically improve its efficiency. It is selected as an example, because the decision to offer credit has been automatic in most community pharmacies, and it is

second only to inventory in dollar asset investment.

Before we leave the subject of financial ratio analysis, let us remember that while financial ratios are a very useful way of examining our pharmacy business, they are not inflexible signs of success or failure. They do point to directions in which the pharmacy business is moving, and they can highlight possible problems, as in the example of Prichard's Pharmacy.

Think of the ratios in terms of diagnostic tools--tools that can lead the way to better management practices.

CAPITAL EFFICIENCY

One of the most direct, or blunt, letters written to dun an individual for a delinquent account was the following:

Dear Sir:

You have been on our books for a year. We have carried you longer than your mother did.

This short reminder letter highlights the frustrations many community pharmacy managers have experienced in offering credit as a service. What needs to be done to establish and maintain an efficient credit control system?

Granting credit: Once the decision is made to offer charge accounts as a service in the pharmacy, a procedure must be developed to establish new accounts. This procedure must include a mechanism to identify and contact potential qualified applicants, develop an appropriate credit application form, verify the information, and check the references on the form.

Also, the system must include the procedures that will be used to contact and welcome the new charge customer and to describe the terms of the agreement. Emergency credit procedures for prescription services should also be established.

Equally important to the investigation and selection of credit applicants is the establishment of an efficient credit collection system.

Usually, collection procedures begin with the mailing of a statement (and invoices) for all charges. These statements should be mailed at regular intervals. Patients will not pay until they receive a bill.

Likewise, overdue accounts should be pursued in a systematic manner. Collection activities should increase in severity as the amount of time the account is past due increases. They might escalate from simply telephoning individuals with past-due accounts to turning them over to a collection agency or taking them to court.

Three basic techniques may be utilized to measure the efficiency of managing the credit system:

1. The average accounts receivable collection period ratio. This technique has been covered in this article.

2. Age analysis of the individual accounts. An age analysis will indicate the status of each account. It usually indicates the percentage of the outstanding debt that is less than 30 days old, 30 to 60 days, and 60 to 90 days. Obviously, the older the debt, the more difficult it is to collect. If a significant portion of the current balance is three to four months old, steps should be taken to collect the account.

3. Plotting accounts receivable and sales on a graph. This technique enables the manager to determine quickly if the investment in accounts receivable is increasing beyond the ability to support these activities. In addition, it will alert the manager to the need to modify the monitoring and collection activities.

Establishing and maintaining an efficient credit sales program will be enhanced by creating, in writing, a credit policy statement.

A properly managed charged account system can be a major asset for a community pharmacy. But if accounts receivable are not managed and collected properly, as in Prichard's Pharmacy, cash flow can be severely curtailed and profits dramatically reduced.

The establishment and maintenance of an efficient purchasing and inventory control system is likewise needed for Prichard's Pharmacy.

SUMMARY

This article has demonstrated the use of ratio and trend analysis to analyze the financial condition of a pharmacy as well as the managerial aspects of establishing and maintaining an efficient credit control system.

A glossary of accounting terms utilized throughout this article appears on the preceding page.

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DESCRIPTORS: Pharmacy--Finance

SIC CODES: 5912 Drug stores and proprietary stores

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S2	3	PA='FORD MOTOR CO LTD' OR PA='FORD MOTOR CO OF CANADA LIMITED'
S3	134	PA='FORD MOTOR CO OF CANADA LIMITED' OR S2 OR S3 OR S4 OR - S5 OR PA='FORD MOTOR COMPANY DEARBORN' OR S7 OR PA='FORD MOTOR COMPANY LIMITED OF CANADA LIMITED' OR PA='FORD MOTOR COMPANY LTD' OR S10 OR E11 OR E12 OR E13 OR E14 OR E15
S4	0	((ANALYZ? OR ANALYSIS OR COMPAR? OR EVALUAT?) (S) FINANCIAL)/TI AND (S1 OR S2 OR S3)
S5	19	VOLUME(N3) SUBROUTINE
S6	544	(VOLUME(N2) VARIANCE)
S7	1584	S1 OR S2 OR S3
S8	0	S6 AND S7
S9	3465	(VOLUME OR MIX OR REVENUE OR COST OR EXCHANGE OR (ONE(W) TIME)) (N3) (VARIANCE OR SUBROUTINE)
S10	0	S9 AND S7
S11	7	S9 AND ((ANALYZ? OR ANALYSIS OR COMPAR? OR EVALUAT?) (S) FINANCIAL)/TI
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S14	47	S13 AND S9
S15	334	S12 AND S9
S16	38	S15 AND PD<20000810
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